

DMW



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Laval Chan Chun KONG et al.

Group Art Unit 1624

Serial No.: 10/730,272

Examiner: unknown

Filed: December 9, 2003

For: COMPOUNDS AND METHODS FOR THE TREATMENT OR PREVENTION OF FLAVIVIRUS INFECTIONS

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §§ 1.56, 1.97 and 1.98

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

This information disclosure statement is made in accordance with 37 C.F.R. §§ 1.56, 1.97 and 1.98 as follows:

Timing and Fees

- ☒ Under 37 C.F.R. § 1.97(b), no fee or statement is required for filing this information disclosure statement is filed:
- ☐ within three months of the filing date of a national application other than a CPA under § 1.53(d);
 - ☐ within three months of the actual filing date of the national phase of a PCT application; OR
 - ☒ before the mailing of a first substantive office action (including after filing of an RCE).
- ☐ Under 37 C.F.R. § 1.97(c), this information disclosure statement is filed after the periods specified in 37 C.F.R. § 1.97(b), but before the mailing date of:
- ☐ a final rejection under 37 C.F.R. 1.113;
 - ☐ termination of prosecution, e.g. Ex Parte Quayle, M.P.E.P § 609(B)(2); OR
 - ☐ a notice of allowance under 37 C.F.R. § 1.311; and

is accompanied by:

- ☐ the statement as specified in 37 C.F.R. § 1.97(e) set out below; OR
 - ☐ a check covering the fee of \$180.00 under 37 C.F.R. § 1.17(p).
- ☐ Under 37 C.F.R. § 1.97(d), this information disclosure statement is filed after the mailing date of the following actions which have not been withdrawn:
- ☐ a final action under 37 C.F.R. § 1.113;
 - ☐ termination of prosecution, e.g. Ex Parte Quayle, M.P.E.P § 609(B)(2); OR
 - ☐ a notice of allowance under 37 C.F.R. § 1.311;

AND is filed on or before payment of the issue fee; AND is accompanied by:

- ☐ the statement as specified in 37 C.F.R. § 1.97(e) as set forth below, and the fee of \$180.00 under 37 C.F.R. § 1.17(p).

Statements Under 37 C.F.R. 1.97(e)

- ☐ Each item of information contained in this information disclosure statement was a first cited in a communication from a foreign patent office in a counterpart foreign application having a mailing date not more than three months prior to the filing date of this information disclosure statement; or
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and to the knowledge of the undersigned attorney after making reasonable inquiry, no item of information contained in this information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing date of the information disclosure statement.

Cited Materials

- ☐ Copies of materials listed but not attached were cited in benefit (35 U.S.C. § 120) ancestor application Serial No. _____, on Form 892 by the Examiner and/or Form 1449 by the applicant; see 37 C.F.R. § 1.98(d).
- ☐ Copies of materials listed were cited in an international search report dated _____.
- ☒ Copies of the materials listed are attached (except for the foregoing).

Non-English Language References

- ☐ An English-language search report or equivalent paper from a foreign patent office is provided indicating the relevance of the cited reference(s).
- ☐ A foreign-language search report from a foreign patent office is provided, and pertinent parts are translated substantively below:
- X = document of particular relevance when it is taken alone
Y = document of particular relevance when it is combined with another such document
A = document defining the general state of the art
O = non-written disclosure
P = intercalated document
T = document cited to understand the theory or principle underlying the invention
E = patent document which has the benefit of a date earlier than the filing date and which was published only on or after this filing date
D = cited in the application
L = cited for another reason
& = publication of member of same patent family
- ☐ Translation of other relevant information on foreign search report


Other Information

Payment of Fees Due (If Any):

- ☐ A check for \$_____ covering the fee identified above is attached.
- ☐ Please charge to Deposit Account No. 13-3402 \$_____ for the fee identified above.

☒ The Commissioner is hereby authorized to charge or credit any overpayment to Deposit Account #13-3402, two copies of this paper are attached for this purpose.

Respectfully submitted,



Brian P. Heaney, Reg. No. 32,542
Attorney/Agent for Applicants

MILLEN, WHITE, ZELANO
& BRANIGAN, P.C.
Arlington Courthouse Plaza I
2200 Clarendon Blvd. Suite 1400
Arlington, Virginia 22201
Telephone: (703) 243-6333
Facsimile: (703) 243-6410

Attorney Docket No. VIRO-0005

Date: June 22, 2005



Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/730,272
Filing Date	December 9, 2003
First Named Inventor	Laval Chan Chun KONG
Group Art Unit	1624
Examiner Name	Unassigned
Attorney Docket Number	Viro-0005

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
		4,180,662		Pfister et al.	12/25/1979	
		6,187,799		Wood et al.	02/13/2001	
		6,747,057		Ruzafa et al.	6/2004	
		6,734,207		Uckun et al.	5/2004	
		6,660,732		Betageri et al.	12/2003	
		6,660,728		Scheunemann et al.	12/2003	
		6,620,767		Ducray et al.	9/2003	
		6,448,290		Ohuchida et al.	9/2002	
		6,414,013		Fancelli et al.	7/2002	
		6,380,214		Gant et al.	4/2002	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
		WO	98/52558			11-26-1998		
		WO	02/28353			04-11-2002		
		JP	7-48360			02-21-1995		
		DE	199 20 247A			11-16-2000		
		DE	199 03 398A			08-10-2000		

Examiner
Signature

Date
Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 3

Complete if Known

Application Number	10/730,272
Filing Date	December 9, 2003
First Named Inventor	Laval Chan Chun KONG
Group Art Unit	1624
Examiner Name	Unassigned
Attorney Docket Number	Viro-0005

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		David McKinnon et al., "The Conversions of Izothiazolium Salts into Thiophenecarboxylic Ester Derivatives", <u>Can. J. Chem.</u> , 1984, Vol. 62, pp. 1580-1584	
		Pilar Goya et al., "Synthesis of 4-Oxo-3,4-dihydro-1 H-thieno [3,4-c] and thieno [3,2-c][1,2,6]thiadiazine 2,2-Dioxides", <u>Synthesis</u> , April 1989, pp. 280-282	
		Bo Sung Kim et al., "Reactions of Thiarylketene S,N-Acetals with 1,3-Dicarbonyl Compounds in the Presence of Mercury (II) Acetate: A General Route to 2-Acyl- and 2 Aroyl-3-(alkylamino)-5-arylthiopenes and 2-(Ethoxycarbonyl)-3-(methylamino)-5-arylthiopenes", <u>J. Org. Chem.</u> , 1998, Vol. 63, pp. 6086-6087	
		Bo Sung et al., "A Facile and Convenient Synthesis of 3-Alkylamino-5-arylthiopenes with a Variety of Substituents at C-2 and Studies of Reaction Mechanisms", <u>J. Org. Chem.</u> , 2000, Vol. 65, pp. 3690-3699	
		Ya. L. Gol'dfarb et al., "ACTION OF ALKALI METALS IN LIQUID AMMONIA ON SUBSTITUTED THIOPHENES. COMMUNICATION 9. PREPARATION OF 5-MERCAPTO-4-KETOALKANOIC ACIDS BY REDUCTIVE CLEAVAGE OF 4-ACETYLAMINO- AND 4-NITROTHIOPHENE-2-CARBOXYLIC ACIDS", <u>Izv. Akad. Nauk SSSR, Ser. Khim.</u> , 1984, Vol. 10, pp. 2136-2139	
		J. R. Desai et al.; J. IND. CHEM. SOC., Vol. 74, 1997, p. 160, "Thieno[3,2-d]pyrimidines - Part-I: Preparation and Antimicrobial Activity of 3-N-Substituted-thioureido-2-methyl-6-phenylthieno[3,2-d]pyrimidin-4(3H)-ones", ISR ref. XP002220249.	
		E. Marchand, G. Morel, BULL. SOC. CHIM. FR. Vol. 133, No. 9, 1996, p. 903-912, "Alpha-Thioxothioamides Reactions de cycloaddition [4+2] avec l'acetylenedicarboxylate de dimethyle et le propiolate de methyle", ISR ref. XP002220251.	
		W. Kantelehner et al., J. Prakt. Chem., Vol. 338, 1996, p. 403-413; "Orthoamide, IL. Umsetzungen von Orthoamid-Derivaten mit Schwefel und Selen, Synthesen von 1,3-Thiazol- und 1,3-Selenazolderivaten" ISR ref. XP002220245.	
		S. Vega et al., Eur. J. Med. Chem. Vol. 23, No. 4, 1988, p. 329-334; "Thiophene Isosteres: Synthesis and Pharmacological Study of 3-(azolo-yl)thieno isothiazole-1,1-dioxides" ISR ref. XP002220246.	
		R.A. Smith et al., Bioorg. Med. Chem. Lett. Vol. 11, No. 20, 2001, p. 2775-2778; "Discovery of Heterocyclic Ureas as a New Class of Raf Kinase Inhibitors: Identification of a Second Generation Lead by a Combinatorial Chemistry Approach", ISR ref. XP001118699.	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/730,272
		Filing Date	December 9, 2003
		First Named Inventor	Laval Chan Chun KONG
		Group Art Unit	1624
		Examiner Name	Unassigned
Sheet	3	of	3
		Attorney Docket Number	Viro-0005

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		B.S. Kim et al., J. Org. Chem. Vol. 63, No. 18, 1998, p. 6086-6087, "Reactions of Thioaroylketene S,N-Acetals with 1,3-Dicarbonyl Compounds in the Presence of Mercury(II) Acetate: A General Route to 2-Acyl- and 2-Aroyl-3-(alkylamino)-5-arylthiophenes and 2-(Etoxycarbonyl)-3-(methylamino)-5-arylthiophenes"; ISR ref. XP001118697.	
		A.M. Redman et al., Bioorg. Med. Chem. Lett., Vol. 11, 2001, p. 9-12; "P38 Kinase Inhibitors for the Treatment of Arthritis and Osteoporosis: Thienyl, Furyl, and Pyrrolyl Ureas", ISR ref. XP004225311.	
		D.J. Lee et al., Chemical Abstracts Service, Columbus, OH, U.S., "Novel Synthesis of 5,6-Dihydro-4H-thieno[3,2-b]pyrrol-5-ones via the Rhodium(II)-Mediated Wolff Rearrangement of 3-(2-Thienyl)-3-oxo-2-diazopropanoates"; Database accession no. 2002:151873, ISR ref. XP002220252.	
		M. Sugiyama et al., Chem. Pharm. Bull. Vol. 37, No. 8, 1989, p. 2091-2102; "Condensed Thienopyrimidines. I. Synthesis and Gastric Antisecretory Activity of 2,3-Dihydro-5H-oxazolothienopyrimidin-5-one Derivatives", ISR ref. XP001118351.	
		J.C. Lancelot et al., J. Heterocycl. Chem. Vol. 33, No. 2, 1996, p. 427-430; "A Facile Synthesis of New Beta-Lactams", ISR ref. XP002220247.	
		D.M. McKinnon et al., Can. J. Chem. Vol. 62, No. 8, 1984, p. 1580-1584; "The Conversion of Isothiazolium Salts into Thiophenecarboxylic Ester Derivatives", ISR ref. XP002220248.	
		J.R. Desai et al., J. Inst. Chemists (INDIA) Vol. 67, 1995, p. 136-137, "Thieno[3,2-d]pyrimidines - Part - II: Preparation and Antimicrobial Activity of 2-methyl-3-N-Arylsulphonamido-6-Phenylthieno[3,2-d]Pyrimidin-4(3H)-ones", ISR ref. XP002220249.	
		Co-pending Serial Application No. 10/166,031, filed June 11, 2002	
		Co-pending Serial Application No. 11/042,442, filed January 26, 2005	

Examiner Signature	Date Considered	
-----------------------	--------------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.